

Available online at www.sciencedirect.com**ScienceDirect**

Procedia - Social and Behavioral Sciences 113 (2014) 161 – 170

Procedia
Social and Behavioral Sciences

2013 International Congress on Clinical and Counselling Psychology (CPSYC)

Substance abuse and childhood trauma experiences: Comparison between incarcerated and non-incarcerated youth

Affizal Ahmad^{a*}, Nurul Hazrina Mazlan^a^a*Universiti Sains Malaysia, Forensic Sciences Program, School of Health Sciences, Kubang Kerian, 16150 Kelantan, Malaysia*

Abstract

Problem statement: Increase involvement of youth in substance abuse has been a major issue internationally. Various studies have been conducted to explore the risk factors, which mostly focus on their childhood trauma experiences.

Research questions: What is the prevalence of substance abuse and childhood trauma experiences among incarcerated youth? What is the prevalence of substance abuse and childhood trauma experiences among non-incarcerated youth? Is there difference between the two? Are childhood trauma experiences significantly associated with substance abuse?

Purpose of the study: To compare the prevalence of substance abuse and childhood trauma experiences between incarcerated and non-incarcerated youth, and to examine the association between substance abuse and childhood trauma experiences among the youth.

Research method: A cross-sectional study was designed using two psychometric instruments namely Simple Screening Instrument for Alcohol and Other Drugs, and Childhood Trauma Questionnaire. Purposive-selective sampling method was used. In total, 765 youths (123 incarcerated, 642 non-incarcerated) were involved in the study. The data were analysed using statistical software. Independent *t*-test and regression analysis were performed to analyse the data.

Findings: Both incarcerated boys and girls had higher prevalence of substance abuse compared with non-incarcerated groups, which was confirmed by independent *t*-test ($p < .001$). Significant more incarcerated boys and girls had experienced childhood traumas compared to non-incarcerated. Childhood trauma experiences significantly contribute to substance abuse among incarcerated girls ($p < .05$), but not to incarcerated boys ($p > .05$).

Conclusion: The prevalence of substance abuse and childhood trauma experiences are higher among incarcerated youth compared to the non-incarcerated youth. In addition, childhood trauma experiences significantly contribute to substance abuse among incarcerated girls. The findings of this study are very useful to provide an empirical knowledge towards a better rehabilitation program design for incarcerated youth.

© 2013 The Authors. Published by Elsevier Ltd. Open access under [CC BY-NC-ND license](https://creativecommons.org/licenses/by-nc-nd/4.0/).

Selection and peer-review under responsibility of Cognitive-counselling, research and conference services (c-crcs).

Keywords: Substance abuse; childhood trauma experiences; incarcerated youth; non-incarcerated youth.

* Corresponding author. Tel.: +609-7677595; fax: +609-7677515.

E-mail address: affizal@kb.usm.my

1. Introduction

Substance abuse is one of the most common psychiatric as well as social problems present in any existing society in the world. It deserves to be called a global threat. Since the beginning of substance use, various social problems related to substance especially drugs have emerged (Abrantes, Hoffmann, & Anton, 2005; Lennings, Kenny, & Nelson, 2006; Veysey & Hamilton, 2007). These problems include increase in violent incident and criminal offences. The growing trend of prison population all over the world, particularly among women and juvenile, is strongly related to the existence of substance abuse (Willis & Rushforth, 2003; Abrantes et al., 2005; Lennings et al., 2006).

Increase involvement of youth in substance abuse has been a major issue internationally. Other than increase in the number of youth being incarcerated and detained, various social problems related to substance abuse among the youth have been evidenced in the recent decade (e.g., Abrantes et al., 2005; Snyder & Sickmund, 2006). Vandalism, drop-out of school, and prostitution are examples of common social problems that have been observed among substance-abusing youth these days (Brawn & Roe-Sepowitz, 2008; Schubert, Mulvey, & Glasheen, 2011). Besides, involvement in more serious crimes such as armed robbery and murder is increasing and these crimes are strongly related to their association with substance abuse (Dixon, Howie, & Starling, 2005; Hagelstam & Häkkinen, 2006; Plattner et al., 2012).

Various studies have been conducted to explore the risk factors of substance abuse among youth (e.g., Abrantes et al., 2005; Dixon et al., 2005; Prichard & Payne, 2005). Among the most common risk factors related to substance abuse among youth are childhood trauma experiences, which refer to experiences of various types of maltreatment before 18 years old or lower (Bernstein et al., 2003), depending on individual country's definition of children. In Malaysia, a child is defined as a person whose age is less than 18 years old (Act 611 - Child Act 2001, Laws of Malaysia). Types of maltreatment include abuses and negligence. These maltreatments are suggested to trigger either direct use of substance as a coping method to alleviate the pain of being maltreated (Dixon et al., 2005), or indirectly by inducing criminal lifestyle that mediates contact with substance use (Snyder & Sickmund, 2006; Brawn & Roe-Sepowitz, 2008). The knowledge on specific roles of childhood trauma experiences towards substance abuse among incarcerated youth, however, is scarce and needs more exploration, particularly in comparison with free-living youth. Thus, the research questions of the current study are:

- What is the prevalence of substance abuse and childhood trauma experiences among incarcerated youth compared to non-incarcerated youth?
- Do childhood trauma experiences significantly associated with substance abuse?

The objectives of this study are to compare the prevalence of substance abuse and childhood trauma experiences among incarcerated and non-incarcerated youth, and to examine the association between substance abuse and childhood trauma experiences among the youth.

2. Methodology

2.1. Participants

There were four groups of participants: incarcerated boys, incarcerated girls, non-incarcerated boys, and non-incarcerated girls. The sampling frame for the incarcerated groups was a detention school under the administration of the Malaysian Prison Department in Peninsular Malaysia. Non-incarcerated groups consisted of free-living youth who resided in and originated from the Peninsular Malaysia. The number of participants was calculated based on two-proportion formula using statistical software. Thus, the required numbers were 71 participants for incarcerated boys, 58 participants for incarcerated girls, 354 participants for non-incarcerated

boys, and 288 participants for non-incarcerated girls. However, during the course of data collection, only 23 incarcerated girls were available as potential participants at the selected detention school.

The selection of participants (other than incarcerated girls) was based on purposive-selective sampling method. The inclusion criteria for the incarcerated groups were 13 to 20 years old, able to read and write on their own, and had no prior diagnosis of physical or mental health problems. The exclusion criteria were history of or current diagnosis of psychiatric disorders, and current acute or chronic physical illness. For the non-incarcerated groups, the inclusion criteria were Malaysian youth of 13 to 20 years old, able to read and write on their own, had no history of previous offending or detention, and had no prior diagnosis of physical or mental health problems. The exclusion criteria included history of past conviction, history of or current diagnosis of psychiatric disorders, and current physical illness. Upon completion of data collection, 100 incarcerated boys and 23 incarcerated girls participated in this study. In total, 765 youth (123 incarcerated, 642 non-incarcerated) were involved.

2.2. Instruments

2.2.1. Simple Screening Instrument for Alcohol and Other Drugs

The instrument was a screening instrument designed to assess alcohol and drug use. The instrument contained 16 items representing the following: consumption pattern; self-awareness of the problem; loss control over substance abuse; adverse physical, psychological, and social effects; and physiological effects of tolerance and withdrawal. The instrument was developed by the Centre for Substance Abuse Treatment (CSAT, 1994). The participants were asked to answer either “yes” or “no” to each question. The scoring was done by giving one point for any “yes” answer and zero point to any “no” answer. Three ranges of degree risk were noted as follows: 0-1 (low); 2-3 (minimal); and ≥ 4 (moderate to high). The test-retest reliability of the SSI-AOD was .97 with sensitivity of 92%, and overall accuracy of 81.9% (Peters et al., 2000).

2.2.2. Childhood Trauma Questionnaire

The instrument was designed by Bernstein and Finks (1998) to measure traumatic experiences during childhood. The instrument contained 28 items and used a five-point Likert scale to measure the response. The scales were as follows: 1=never, 2=rarely, 3=sometimes, 4=often, and 5=very often. The instrument was designed to gather information about childhood events in objective and non-evaluative terms. The instrument measured five types of trauma experiences: physical abuse, emotional abuse, sexual abuse, physical neglect, and emotional neglect. Five items represented each scale. Additional three items were used for Minimisation/Denial scale for any potential underreporting of maltreatment. The reliability of the instrument was .80, with validity ranging between .50 and .75 for each scale (Bernstein & Finks, 1998).

2.3. Data collection

The research protocol of the study was reviewed and endorsed by the Research Ethics Committee (Human) of Universiti Sains Malaysia in August 2010. Subsequently, permission to conduct the study at the selected detention school was requested from and approved by the Malaysian Prison Department. In November 2010, the process of data collection took place at the detention school. Prior to the data collection, a brief explanation was given to the selected participants. All the participants were gathered at a hall to facilitate efficient and quick process. At first, the participants were briefly introduced to the research and the procedure of data collection. They were assured that they could withdraw from the research at any time during the data collection. The participants were also instructed on how to give response to the instruments. After all the participants agreed to take part in the research, a consent form was given followed by the questionnaires. The participants were asked to

complete the questionnaires with no time limit, and to return them as soon as they had finished. The average time taken to complete the questionnaires was seven minutes. The response rate was 100% as all the selected participants completed the questionnaires.

Data collection for non-incarcerated group took place soon after the completion of data collection in the incarcerated group. During the process, potential participants were approached and asked for their interest to take part in the research. A brief explanation was given and if requested, the researcher explained further regarding the research. After the participants agreed to participate in the research, a consent form was given with the questionnaires. The participants were asked to complete the questionnaires and returned them whenever they wished to. Data collection for the non-incarcerated group took approximately two weeks to complete. Overall, the response rate in the non-incarcerated group was 98%.

2.4. Data analysis

Upon completion of data collection, the required information was compiled into a systematic and computerised data. The data were analysed using statistical application software, SPSS version 19.0. Descriptive statistics were computed to summarise the demographic information of the participants and to calculate the prevalence of the variables. To compare the difference in prevalence of substance abuse between incarcerated and non-incarcerated groups, independent *t*-test was computed. Subsequently, to examine the association between childhood trauma experiences and substance abuse, regression analysis was run with the aim to acquire the contribution of childhood trauma experiences towards substance abuse among incarcerated youth. Thus, in the regression analysis, the predictor variables were all scales of childhood trauma experiences (physical abuse, emotional abuse, sexual abuse, physical neglect, emotional neglect) and the outcome variable was substance abuse.

3. Results

3.1. Demographic information

The mean age of the participants in incarcerated group was 18.34 years old for boys and 17.61 years old for girls. Overall, the participants in incarcerated group were within 15 to 20 years old. The summary of participants' demographic information is tabulated in Table 1. Most of the participants in incarcerated groups were Malay and single. In addition, majority participants had secondary education as their highest education level. Among incarcerated boys, almost equal number of participants had either being employed steadily, constantly changing job or never being employed prior to detention. Among incarcerated girls, the highest number of participants had constantly changed job before being detained.

The mean age of the participants in the non-incarcerated groups was 18.68 years old for boys and 19.26 years old for girls. Most of the participants in both gender groups were within 18 to 20 years old. Majority of the participants was Malay with most of them was single. The highest education level achieved mostly by the participants was tertiary education. In addition, most of the participants in both gender groups had never been employed during the course of this research.

Table 1. Summary of demographic information for the incarcerated and non-incarcerated groups

Information	Incarcerated boys (%)	Incarcerated girls (%)	Non-incarcerated boys (%)	Non-incarcerated girls (%)
<i>Ethnicity</i>				
Malay	86 (86)	20 (87)	278 (78.5)	243 (84.4)
Chinese	8 (8.0)	2 (8.7)	57 (16.1)	38 (13.2)
Indian	4 (4.0)	1 (4.3)	18 (5.1)	4 (1.4)
Others	2 (2.0)	-	1 (.3)	3 (1.0)
<i>Marital status</i>				
Single	80 (80)	19 (82.6)	349 (98.6)	284 (98.6)
Married	19 (19)	3 (13)	5 (1.4)	4 (1.4)
Divorced	1 (1.0)	1 (4.3)	-	-
<i>Highest education level</i>				
None	6 (6.0)	-	1 (.3)	-
Primary	10 (10)	1 (4.3)	2 (.6)	2 (.7)
Secondary	83 (83)	22 (95.7)	134 (37.9)	83 (28.8)
Tertiary	-	-	217 (61.3)	203 (70.5)
<i>History of employment</i>				
Stable job	38 (38)	4 (17.4)	5 (1.4)	1 (.3)
Constantly changing job	34 (34)	13 (56.5)	10 (2.8)	5 (1.7)
Never being employed	27 (27)	6 (26.1)	339 (95.8)	282 (97.9)

3.2. Descriptive analysis

Substance abuse was found high among the participants in the incarcerated groups. Nearly 70% of incarcerated boys and girls had abused substance before being detained. The result demonstrating substance abuse among the participants is shown in Table 2. In contrast to the incarcerated group, less than 10% of non-incarcerated boys and less than 5% of non-incarcerated girls had abused substance.

Table 2. Prevalence of substance abuse among participants in all groups

Gender group/substance abuse	Yes (%)	No (%)
<i>Incarcerated group:</i>		
Boys	69 (69.0)	31 (31.0)
Girls	16 (69.6)	7 (30.4)
<i>Non-incarcerated group:</i>		
Boys	26 (7.3)	328 (92.7)
Girls	13 (4.5)	275 (95.5)

Childhood trauma experiences were found higher among incarcerated groups compared to non-incarcerated groups. The prevalence of childhood trauma experiences among the participants is tabulated in Table 3. In all scales of childhood trauma experiences (physical abuse, emotional abuse, sexual abuse, physical neglect,

emotional neglect), the number of participants in the incarcerated groups who scored within moderate to extreme was significantly higher than the number of participants in non-incarcerated groups. Although the highest number of participants scored within none to minimal in most scales, considerable high number of participants in incarcerated groups scored within moderate to extreme.

In abuses scales, the highest number of incarcerated boys had moderate to extreme sexual abuse (52%), whereas among incarcerated girls, it largely showed moderate to extreme physical and sexual abuse (39.1%). Experiences of negligence were found higher than abuses among incarcerated boys. More than half of the participants in the group indicated moderate to extreme physical (63%) and emotional negligence (53%). Incarcerated girls showed no significant difference between abuses and negligence scales. While a large number of participants had experienced none to minimal negligence, more than 20% had moderate to extreme physical and emotional negligence among the girls.

Table 3. Prevalence of childhood trauma experiences among participants in all groups

Childhood trauma experiences/gender groups	Incarcerated boys (%)	Incarcerated girls (%)	Non-incarcerated boys (%)	Non-incarcerated girls (%)
<i>Physical abuse</i>				
None to minimal	45 (45.0)	10 (43.5)	311 (87.9)	273 (94.8)
Low to moderate	17 (17.0)	4 (17.4)	15 (4.2)	9 (3.1)
Moderate to extreme	38 (38.0)	9 (39.1)	28 (7.9)	6 (2.0)
<i>Emotional abuse</i>				
None to minimal	57 (57.0)	15 (65.2)	298 (84.2)	247 (85.8)
Low to moderate	27 (27.0)	6 (26.1)	44 (12.4)	29 (10.1)
Moderate to extreme	16 (16.0)	2 (8.6)	12 (3.4)	12 (4.1)
<i>Sexual abuse</i>				
None to minimal	39 (39.0)	7 (30.4)	303 (85.6)	261 (90.6)
Low to moderate	9 (9.0)	7 (30.4)	29 (8.2)	13 (4.5)
Moderate to extreme	52 (52.0)	9 (39.1)	22 (6.2)	14 (4.9)
<i>Physical neglect</i>				
None to minimal	22 (22.0)	11 (47.8)	173 (48.9)	175 (60.8)
Low to moderate	15 (15.0)	7 (30.4)	79 (22.3)	62 (21.5)
Moderate to extreme	63 (63.0)	5 (21.7)	102 (28.9)	51 (17.7)
<i>Emotional neglect</i>				
None to minimal	30 (30.0)	12 (52.2)	198 (55.9)	194 (67.4)
Low to moderate	17 (17.0)	6 (26.1)	101 (28.5)	74 (25.7)
Moderate to extreme	53 (53.0)	5 (21.7)	55 (15.5)	20 (7.0)

Overall, childhood trauma experiences were low among non-incarcerated groups. Most of the participants in both gender groups had experienced none to minimal abuses during childhood (>80%). Less than 10% of boys and less than 5% of girls had experienced moderate to extreme abuses. Nonetheless, fair number of participants had scored within moderate to extreme in negligence scales. Nearly 30% of non-incarcerated boys had experienced moderate to extreme physical neglect and about 15% had experienced emotional neglect within the same range. Moderate to extreme physical neglect was also noted among non-incarcerated girls (17.7%). However, only 7% of non-incarcerated girls had experienced moderate to extreme emotional neglect. In

comparison to incarcerated groups, the non-incarcerated groups had experienced significantly lesser childhood traumas.

3.3. Statistical analysis

To compare the difference in substance abuse between incarcerated and non-incarcerated groups, independent *t*-test was conducted. The results are tabulated in Table 4.

Table 4. Prevalence of substance abuse among participants in all groups

Gender group	Mean score		Standard error mean		Independent <i>t</i> -test		
	Incarcerated	Non-incarcerated	Incarcerated	Non-incarcerated	<i>t</i>	<i>df</i>	<i>p</i> -value
Boys	6.40	1.22	.454	.105	11.13 ^b	109.82	<.001
Girls	6.43	.84	1.01	.07	5.55 ^a	22.23	<.001

Notes. a – equal variances assumed, b – equal variances not assumed.

Substance abuse was significantly different between incarcerated and non-incarcerated groups in both boys and girls ($p < .001$). As shown in Table 4, incarcerated boys and incarcerated girls had higher mean score compared to non-incarcerated boys and girls. The independent *t*-test confirmed that incarcerated boys and incarcerated girls had higher prevalence of substance abuse compared to non-incarcerated groups.

Subsequently, simple linear regression was performed to examine the relationship between childhood trauma experiences and substance abuse. The results are shown in Table 5. No significant results were found ($p > .05$) between childhood trauma experiences scales and substance abuse among boys. On the contrary, abuses scales demonstrated significant relationships with substance abuse among girls ($p < .05$). Negligence scales however did not show any significant relationship with substance abuse among girls.

Table 5. Simple linear regression of childhood trauma experiences and substance abuse in incarcerated groups

Childhood trauma experiences/gender groups	Boys		Girls	
	b (95% CI)	<i>p</i> -value	b (95% CI)	<i>p</i> -value
Physical abuse	.08 (-.11, .28)	.392	.50 (.13, .86)	.010
Emotional abuse	.02 (-.20, .24)	.848	.53 (.05, 1.01)	.032
Sexual abuse	.07 (-.13, .27)	.512	.50 (.20, .80)	.002
Physical neglect	.03 (-.20, .27)	.785	.51 (-.07, 1.09)	.084
Emotional neglect	.10 (-.05, .25)	.204	.29 (-.06, .64)	.097

4. Discussion

The high prevalence of substance abuse among incarcerated youth was evidenced in many previous studies (e.g., McClelland, Elkington, Teplin, & Abram, 2004; Dixon et al., 2005; Brawn & Roe-Sepowitz, 2008). This finding was successfully replicated in the current study as high number of incarcerated boys and girls were identified with substance abuse. Comparison between incarcerated youth and free-living youth demonstrated significant difference with very low number of free-living youth had used or abused substance. This result was supported by previous studies with similar findings (e.g., Dixon, Howie, & Starling, 2004; Prichard & Payne,

2005). Indirectly, these findings suggested the role of substance abuse towards offending behaviours among youth. Substance use may induce the involvement of youth in other social-related problems (Brawn & Roe-Sepowitz, 2008; Schubert et al., 2011), such as vandalism and truancy as well as criminal-related problems such as prostitution and robbery. On the other hand, involvement in criminal lifestyle may facilitate the use of substance. Moreover, previous studies have proved the role of negative peers and mobster towards substance abuse among youth (Snyder & Sickmund, 2006; Brawn & Roe-Sepowitz, 2008).

Childhood trauma experiences were among the most common risk factors for substance abuse among incarcerated youth (Abrantes et al., 2005; Dixon et al., 2005; Prichard & Payne, 2005). The high prevalence of childhood trauma experiences among incarcerated youth in the current study suggested possible association between the traumatic past experiences and their substance abuse. Based on the measurement, five scales of childhood trauma experiences were assessed, namely physical abuse, emotional abuse, sexual abuse, physical neglect, and emotional neglect. Negligence was found more common than abuses among incarcerated boys, whereas abuses were more frequent than negligence among incarcerated girls. These findings showed that incarcerated boys were more likely to have experienced physical and emotional neglect, while incarcerated girls were more likely to have experienced physical and sexual abuse. When each scale was compared, incarcerated boys demonstrated higher incidence of each scale except for physical abuse. This finding contradicted some previous findings that found girls were more likely to experience abuse compared to boys (Abrantes et al., 2005; Veysey & Hamilton, 2007; McGrath, Nilsen, & Kerley, 2011). Nevertheless, the small number of incarcerated girls may limit the current findings.

The occurrences of childhood trauma experiences were notably low among non-incarcerated groups. Most of the non-incarcerated youth had experienced at least minimal childhood trauma experiences compared to high number of incarcerated youth who had experienced moderate to extreme trauma experiences. Considerable number of non-incarcerated youth had experienced up to extreme level of physical and emotional neglect. Nevertheless, compared to incarcerated youth, the incidence of negligence among the non-incarcerated youth was lower. The findings from both incarcerated and non-incarcerated youth demonstrated that negligence was more common among Malaysian youth compared to abuses. This may be explained by the effects of each variable, where abuse was more likely to be noticed compared to negligence. Negligence on the other hand was often difficult to be noticed as traumatic experiences, either by the perpetrator or the victim.

The comparison of descriptive findings between incarcerated and non-incarcerated youth suggested that childhood trauma experiences were potentially related to substance abuse among the youth. Further exploration confirmed this postulation. Childhood trauma experiences were significantly related to substance abuse, but only among incarcerated girls. Precisely, only abuses were significantly related to substance abuse among incarcerated girls. Negligence on the other hand was not associated with substance abuse among the girls. Among incarcerated boys, both abuses and negligence were not related to their substance abuse, indicating that childhood trauma experiences did not contribute to substance abuse among the youth in this group. Regardless of the high incidence of childhood trauma experiences among the incarcerated boys, other risk factors might be more significant in causing substance abuse among them. Childhood trauma experiences, particularly abuses, demonstrated significant roles towards substance abuse among incarcerated girls. As discussed earlier, abuses were more frequent among the girls compared to negligence. This evidence may suggest the significance of abuses and insignificance of negligence in substance abuse in the group. Nonetheless, the current findings successfully replicated some of the previous findings (e.g., Dixon et al., 2005; Prichard & Payne, 2005), as significant association between childhood trauma experiences and substance abuse among incarcerated youth was established.

Several limitations were acknowledged in the current research. First of all, the limited number of participants available among incarcerated girls. During the course of this research, only 26 girls were detained at the selected detention school. Three of them were not qualified to participate, resulting in only 23 eligible girls to be included in the study. A larger sample is desired so that the findings are more representative and applicable in large

population. Nevertheless, the current findings are considered representative since all the eligible incarcerated girls were successfully recruited. The second limitation is the sampling frame. Only detention school under the administration of Malaysian Prison Department was selected as the sampling frame. Youth incarcerated in adult prison was not included in this study since no incarcerated girls were available in adult prison. To produce a homogenous sample, only detention school was involved. Nevertheless, youth incarcerated in adult prison may be included in future study to enlarge the findings of the research. Lastly, the findings of the current study are based on quantitative measurement only. To validate the findings further, in-depth method such as qualitative interview and clinical diagnosis are desired.

5. Conclusion and recommendation

High incidence of substance abuse and childhood trauma experiences was successfully identified among incarcerated youth in the current research. Comparison with non-incarcerated youth showed that incarcerated youth had significantly higher prevalence of substance abuse and childhood trauma experiences. Childhood trauma experiences, particularly abuses, were found to significantly contribute to substance abuse among incarcerated girls, but not among incarcerated boys. These findings are very useful to provide empirical knowledge in designing a better rehabilitation programme for incarcerated youth. Childhood trauma experiences can be considered a risk factor for youth's involvement in substance abuse and thus should be highlighted in rehabilitation process of incarcerated youth. More studies emphasising on the risk factors for substance abuse among youth are recommended in the future, especially among incarcerated boys.

Acknowledgements

The authors would like to address special thanks to Universiti Sains Malaysia for supporting this study under USM Short-term Grant (304/PPSK/61311052). Also, thank you to Malaysian Prison Department for the opportunity to carry out this study, to all youth for giving a dedicative and kind cooperation, and to the prison staffs and officers for pleasant assistance.

References

- Abrantes, A.M., Hoffmann, N.G., & Anton, R. (2005). Prevalence of co-occurring disorders among juvenile committed to detention centers. *International Journal of Offender Therapy and Comparative Criminology*, 49, 179-193.
- Bernstein, D. P., & Finks, L. (1998). *Childhood Trauma Questionnaire: a Retrospective Self-Report Manual*. San Antonio, TX: The Psychological Corporation.
- Bernstein, D.P., Stein, J.A., Newcomb, M.D., Walker, E., Pogge, D. Ahluvalia, T.,... Zule, W. (2003). Development and validation of a brief screening version of the Childhood Trauma Questionnaire. *Child Abuse and Neglect*, 27, 169-190.
- Brawn, K. M., & Roe-Sepowitz, D. (2008). Female juvenile prostitutes: Exploring the relationship to substance use. *Children and Youth Services Review*, 30, 1395-1402.
- Center for Substance Abuse Treatment, CSAT (1994). *Simple Screening Instruments for Outreach for Alcohol & Other Drug Abuse & Infectious Diseases: Treatment Improvement Protocol Series 11*. Washington, DC: Government Printing Office.
- Dixon, A., Howie, P., & Starling, J. (2004). Psychopathology in female juvenile offenders. *Journal of Child Psychology & Psychiatry*, 45(6), 1150-1158.
- Dixon, A., Howie, P., & Starling, J. (2005). Trauma exposure, posttraumatic stress, and psychiatric comorbidity in female juvenile offenders. *Journal of the American Academy of Child and Adolescent Psychiatry*, 44 (8), 798-806.
- Hagelstam, C., & Häkkinen, H. (2006). Adolescent homicides in Finland: Offence and offender characteristics. *Forensic Science International*, 164, 110-115.
- Lennings, C.J., Kenny, D.T., & Nelson, P. (2006). Substance use and treatment seeking in young offenders on community orders. *Journal of Substance Abuse Treatment*, 31, 425-432.

- McClelland, G.M., Elkington, K.S., Teplin, L.A., & Abram, K.M. (2004). Multiple substance use disorders in juvenile detainees. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43, 1215-1224.
- McGrath, S.A., Nilsen, A.A., & Kerley, K.R. (2011). Sexual victimization in childhood and the propensity for juvenile delinquency and adult criminal behavior: A systematic review. *Aggression and Violent Behavior*, 16, 485-492.
- Peters, R.H., Greenbaum, P.E., Steinberg, M.L., Carter, C.R., Ortiz, M.M., Fry, B.C., & Valle, S.K. (2000). Effectiveness of screening instruments in detecting substance use disorders among prisoners. *Journal of Substance Abuse Treatment*, 18, 349-358.
- Plattner, B., Giger, J., Bachmann, F., Brühwiler, K., Steiner, H., Steinhausen, H-C.,... Aebi, M. (2012). Psychopathology and offense types in detained male juveniles. *Psychiatry Research*, 198, 285-290.
- Prichard, J., & Payne, J. (2005). Drug use careers of juvenile offenders study. *Trends & Issues in Crime & Criminal Justice*, no. 304. Canberra, Australia: Australia Institute of Criminology.
- Schubert, C. A., Mulvey, E. P., & Glasheen, C. (2011). Influence of mental health and substance use problems and criminogenic risk on outcomes in serious juvenile offenders. *Journal of the American Academy of Child and Adolescent Psychiatry*, 50 (9), 925-937.
- Snyder, H.N., & Sickmund, M. (2006). *Juvenile offenders & victims: 2006 national report*. Washington, DC: US Department of Justice, Office of Justice Programs, Office of Juvenile Justice & Delinquency.
- Veysey, B.M., & Hamilton, Z. (2007). Girls will be girls: Gender differences in predictors of success for diverted youth with mental health and substance abuse disorders. *Journal of Contemporary Criminal Justice*, 23, 341-363.
- Willis, K., & Rushforth, C. (2003). *The female criminal: An overview of women's drug use & offending behaviour*. Canberra, Australia: Australian Institute of Criminology.